



HELMITIN
QUALITY ADHESIVE SOLUTIONS

HELMISTIK 1680

HIGH PERFORMANCE CONTACT ADHESIVE CANISTER

Product Description

A methylene chloride-free, HAPS-free, high heat resistance, high solids contact adhesive canister spray system with excellent dry time, initial tack and bond strength designed to bond HPL and other decorative overlays to common core materials (particle board, MDF, OSB, etc.).

Benefits

- ✓ Contains no methylene chloride
- ✓ HAPS-free
- ✓ High tack
- ✓ Excellent room temperature contact bonds
- ✓ Excellent green strength and high heat resistance
- ✓ Fast drying with a long open time
- ✓ Bonds HPL, particleboard, plywood, steel, and many plastics
- ✓ Portable and convenient

Suggested Uses

- Lamination of High Performance Laminate (HPL) to particleboard and/or MDF core materials in the fabrication of store fixtures, millwork, cabinets, work surfaces, decorative panels and similar products.
- Lamination of a wide range of porous and non-porous materials to themselves and each other including, but not limited to: HPL, melamine, wood veneer, decorative metal overlays, decorative plastic overlays, foam, fabric, some rubbers, some plastics.
- **Do Not** use with unbacked, plasticized vinyls.
- **Note:** The use of plywood as a core material with HPL may void the HPL manufacturers warranty.

Meets or Exceeds

- **LEED Indoor Environmental Quality Credit 4.4; Low Emitting Materials: Composite Wood and Laminate Adhesives**
 - No added urea-formaldehyde

Physical Properties

Base:	Synthetic rubber
Coverage:	15 oz aerosol can - 27 - 33 ft ² 30 lb canister - 925 - 1,125 ft ² 140 lb canister - 4,350 - 5,225 ft ² 280 lb canister - 8,700 - 10,450 ft ²
Open Time:	60 minutes
Color:	Natural (1680) Green (1680GR) Red (1680RD)
VHAP:	0 lb/lb of solids
VOC:	3.26 lb/gal (391 g/L); less water and exempt solvents

Handling & Storage

- 12 month shelf life from date of manufacture.
- Rotate stock to use the oldest material first.
- Freeze/Thaw Stable; if chilled below 5°C/41°F – agitate well after first warming to 22°C/72°F
- Store between 10°C/50°F and 32°C/90°F.
- Keep container tightly closed and store off of the floor when not in use.
- Avoid exposure of canisters to direct sunlight.
- Use at room temperature, 18°C/65°F, or warmer. For best results use above 21°C/72°F.
- **Do not** apply or make bonds at temperatures below 18°C/65°F.

Packaging

30 lb, 140 lb, 280 lb canisters

Clean-Up

- Removing adhesive overspray from parts: SOLVENT 665 or CITRUS CLEANER
- Flushing adhesive supply hoses and spray guns: SOLVENT 1667

APPLICATION GUIDELINES

Conditioning of Materials

Allow the core and overlay materials to acclimate together at the same temperature and humidity for at least 48 hours before bonding. Optimum conditions are approximately 22°C/72°F and relative humidity of 45% - 55%. Provisions should be made for the circulation of air around the components.

Canister Equipment Set-up

1. Attach and securely tighten each end of the adhesive supply hose to the matching fitting on the spray gun and canister. Turn the trigger pull adjusting nut to the fully closed position to prevent accidental adhesive discharge from the spray gun.
2. Check the fittings for tightness. Position and tighten the spray tip on the spray gun. Plumbers tape is recommended to ensure a tight seal. Slowly open the valve on the canister to start the flow of adhesive and check for leaks. Partial opening is recommended initially. If there are no leaks, fully open the canister valve.
3. Turn the trigger pull adjusting nut on the spray gun 3 - 6 times counterclockwise to allow the adhesive to flow when the trigger is pulled. Discharge the spray gun and adjust the spray pattern to achieve a consistent spray of the desired width.

Adhesive Application

1. Substrates to be bonded with HELMISTIK 1680 must be clean, dry and free from dust, dirt, grease, oils, solvents or any other contaminants.
2. Hold spray gun at a consistent distance of 6 inches to 10 inches from the substrates producing a web pattern across the substrates with minimal overlap.
3. The adhesive should be applied at a coating weight of 2.5 - 3 dry grams per ft², at the same time achieving 80 - 100% coverage. Allow the adhesive to dry properly before bonding.
 - a. To check for dryness, use the back of your fingers and press into the adhesive and lift up; any adhesive transfer or legginess indicates that more dry time is required.
 - b. **Do Not** use the palm of your hand to check for dryness, it is often dirty and may leave oily residues which will interfere with bonding.
 - c. Heavy areas on the adhesive may form a skin on the surface of the adhesive. Press the back of your fingers into the adhesive and twist to tear the skin open. Allow more dry time.
 - d. The adhesive is ready for bonding when it feels tacky, but there is no transfer or legginess.
 - e. Drying time will vary depending on ambient temperature, humidity and coat weight. Drying time can be reduced by using air movement, drying ovens, etc.
4. Bonds can be made as soon as the adhesive is dry. Bonds made any time during the 60 minute open time will be as strong as those made immediately after drying.
5. Apply two coats of HELMISTIK 1680 to porous materials such as plywood and edges. Allow the first coat to dry (this will act as a sealer) before applying the second coat. Allow the second coat to dry completely before bonding. This ensures that the adhesive does not soak in below the board surface and that there is enough adhesive on the surface to achieve a strong, permanent bond.
6. A dull appearance to the dry adhesive surface indicates that an insufficient amount of adhesive has been applied.
7. Position the pieces carefully, as a strong irreversible bond is made instantly upon contact.
8. Apply uniform pressure to ensure proper fusion of the adhesive surfaces. A pinch roller is the best method of applying pressure. Apply the maximum amount of pressure possible without damaging the substrates. **Minimum recommended pressure is 25 psi.** This is easily achieved with a 3" J-roller.
9. **RUBBER MALLETS, BLOCKS OF WOOD, FLOORING ROLLERS, ETC.** may not apply sufficient pressure to achieve good fusion of the adhesive surfaces and are not recommended.

Note:

- A drying issue called "**Blushing**" often occurs under extremely humid conditions. "**Blushing**" occurs when rapidly evaporating solvents cause the temperature of the adhesive surface to drop below dew point. Condensation then forms on the surface of the adhesive and acts as a barrier to further drying; it also interferes with the fusion of the two glued surfaces and prevents them from bonding. All moisture **MUST** be completely evaporated before bonding. Moderate air movement (shop fan) is the preferred method to speed drying while reducing or eliminating "Blushing" issues. Bonds can be made once all moisture and solvents have completely evaporated.
- A failed contact adhesive bond with a shiny appearance to the surface of the adhesive is an indication that the recommended open time was exceeded and/or that inadequate laminating pressure was applied during assembly.
- **Do Not Exceed the Recommended Open Time! Apply Sufficient Laminating Pressure!**

Frequent Use of Canister

1. Leave the hose and gun assembly attached to the canister and leave the canister valve open. This will keep the hose and gun charged with adhesive. Completely close the trigger pull adjusting nut when not in use. Adjust the trigger pull adjusting nut as desired to continue spraying again.
2. Regular gun and hose maintenance and cleaning is recommended for best performance. Clean the spray tip with SOLVENT 665 or HELMITIN CITRUS CLEANER on a daily basis to avoid excessive adhesive build-up. The use of metallic objects to clean the tip is not recommended as they will cause damage to the tip and create an irregular spray pattern.

Canister Storage/Change Over

1. If the canister is not to be used for two weeks or longer, turn the canister valve completely off and dispense all material in the hose and gun assembly. Once empty and no pressure is present when the spray gun trigger is pulled, slowly disconnect the hose from the canister. Protect adjacent surfaces from any material that may drip from the hose.
2. The hose and gun may be then be flushed with the SOLVENT 1667 Supply Hose & Spray Gun Cleaner canister. See the SOLVENT 1667 PDS for full instructions on doing so.
3. The hose may also be cleaned by removing the spray gun and manually flushing it with SOLVENT 665 or SOLVENT NF 699.
4. Flush the closed canister valve with SOLVENT 665 or HELMITIN CITRUS CLEANER to prevent any residual adhesive that is remaining in the valve from plugging it prior to the next use.

Warranty

Because Seller has no control over methods of product application or conditions of use, its product is warranted only to be made of standard commercial grade materials and in conformance with Seller's published specifications, if any. Any recommendations for the use of the product are based on tests or experience believed to be reliable and are furnished without compensation, and Seller does not guarantee the applicability or the accuracy of this information or the suitability of its product in any given situation. Buyer must make its own tests to determine the suitability of Seller's product for Buyer's particular use and Buyer assumes all risk and liability of use of Seller's product.

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